

**LOCKHEED MARTIN** 

April 13, 2001

Mr. Gerard J. Thibeault  
Executive Officer  
California Regional Water Quality Control Board  
Santa Ana Region  
3737 Main Street, Suite 500  
Riverside, California 92501-3339

Dear Mr. Thibeault:

This report is submitted in accordance with the approved August 15, 1997 Work Plan and Schedule prepared under Cleanup and Abatement Order No. 97-58. It covers activity from June 2000 through March 2001.

### **Perchlorate Sampling**

Monthly sampling for perchlorate in selected production wells has been ongoing. The results have been submitted previously to the Regional Water Quality Control Board (RWQCB) (Production Well Sampling Reports, Water Supply Contingency Plan Report, Crafton-Redlands Plume Project Report).

A comprehensive sampling program for perchlorate and other constituents was completed during July to September 2000 for approximately 150 supply and monitoring wells. The results are being checked and evaluated and will be submitted as a separate report to the RWQCB in May 2001.

### **Modeling**

Additional perchlorate modeling runs are on hold pending review and evaluation of the comprehensive area wide sampling program recently conducted.

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### **Perchlorate Treatment Technology Update**

Lockheed Martin Corporation has completed pilot scale testing on various ion exchange process options. The research was comprised of field tests at a Gage Canal Company well (Gage New 6), using a range of resins. Two phases of testing have been completed using combinations of different fixed bed ion exchange resins and regeneration techniques. The results from this testing provide information on design parameters that could be used in the event treatment is required. The test equipment is housed in a trailer near the Gage New 6 well. This equipment will be retained onsite until the results of the testing described above have been completely reviewed.

Aerojet has constructed and operated a 4,000 gpm biological treatment plant at their Rancho Cordova facility.

A 2,500 gpm ion exchange treatment system has been installed at LaPuente and has been operating since December 1999 and utilizes a rotating carousel type ion exchange for perchlorate removal, air stripping for VOC removal, and UV/Oxidation for treatment of NDMA. Department of Health Services (DHS) approval for the consumption of the treated water is pending.

There are five perchlorate related projects currently being funded by the American Water Works Association Research . The projects are scheduled for completion by 2003. Projects include:

- Application of Bioreactor Systems to Low Concentration Perchlorate Contaminated Water - 2 projects
- Investigation of Methods for Perchlorate Destruction in Aqueous Waste Streams - 2 projects
- Removal of Perchlorate and Bromate in Conventional Ozone/GAC Systems
- Treatability of Perchlorate in Ground Water Using Ion Exchange Technology
- Treatability of Perchlorate Containing Waters by Reverse Osmosis and Nanofiltration.

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### **City of Loma Linda**

City of Loma Linda (COLL) Mountain View #3 well has not been accepted by the City as they are not satisfied with the annular seal. Lockheed Martin has agreed to install a replacement well, referred to as Mountain View #5.

Richardson #4, previously installed, has been equipped with a temporary well pump. The DHS sampling was completed on May 31, 2000. DHS has approved the well for use, and the COLL is currently operating the well.

Specifications for installing the new Mountain View #5 well were submitted to the COLL for approval in December 2000. Specifications for the final equipping of Richardson #4 and Mountain View #4 and #5 were submitted to the COLL in January 2001.

The specifications for installation of Mountain View #5 were sent out to bid on March 2, 2001. Bids are due March 30, 2001. Submittal of the well equipment specifications for bid is subject to approvals to be received from the COLL.

### **Victoria Farms**

Lockheed Martin Corporation is working with Victoria Farms to establish a permanent connection to San Bernardino and abandoning the existing water supply wells.

### **City of Redlands**

Lockheed Martin Corporation has settled all claims with the City of Redlands. There are no outstanding water supply issues.

### **Mountain View Power Company (formerly Southern California Edison)**

The Mountain View Power Company has been granted California Energy Commission (CEC) approval for their project. The project will include the drilling of two new shallow aquifer wells for industrial cooling water use.

### **Loma Linda University**

No perchlorate was detected above the action level in the Loma Linda University wells. No further action is planned at this time.

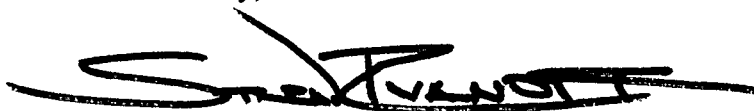
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### **Perchlorate Study Group**

The Perchlorate Study Group (PSG) has completed all the planned perchlorate health effect studies. The results of these studies have been forwarded to the Interagency Perchlorate Steering Committee (IPSC), which includes members from the U.S. EPA and California EPA. The PSG is in the process of providing Additional Quality Assurance data on the studies to the IPSC for inclusion in the planned EPA External Peer Review. The U.S. EPA is currently expecting to schedule the second External Peer Review during the Third Quarter of 2001.

The next quarterly update will be submitted on or about June 15, 2001. If you have any questions, please contact me at (303) 971-1880.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen Evanoff", with a long horizontal flourish extending to the right.

Stephen Evanoff  
Director, Redlands Project

cc: See Distribution List

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